

What Is Claimed Is:

1. An encapsulation device for the repair of articular cartilage defects, the device comprising:

5 a body for disposition adjacent a bone in an area of the cartilage defect; and

elongated leg structure extending from said body for disposition in the bone in the area of the cartilage defect, said leg structure having a length  
10 which is a plurality of magnitudes greater than a thickness of said body, and being of a generally conical configuration.

2. The device in accordance with claim 1 wherein  
15 said body comprises a peripheral frame portion and a cover portion and said leg structure comprises a plurality of elongated leg members extending from a distal side of said frame portion.

20 3. The device in accordance with claim 1 wherein said leg structure is provided with protrusions thereon for gripping the bone.

4. The device in accordance with claim 2 wherein each of said leg members is provided with a central channel therein, each of the channels opening on a proximal side of said frame member.

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5. The device in accordance with claim 1 wherein said body comprises a mesh portion.

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6. The device in accordance with claim 1 wherein said body comprises a collagen scaffold.

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7. The device in accordance with claim 1 wherein said body comprises a frame member and a sheet of periosteum fixed thereto.

8. The device in accordance with claim 7 and further comprising sutures affixing said sheet to said frame.

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9. The device in accordance with claim 1 wherein said body comprises a peripheral frame bounding a cover portion.

10. The device in accordance with claim 1 wherein  
said leg structure comprises at least one leg, and  
further wherein said at least one leg is provided at a  
distal end thereof with an end portion enlarged beyond  
5 a periphery of the leg at a proximal end of the end  
portion and a generally pointed end portion at a distal  
end of the end portion.

11. The device in accordance with claim 1 wherein  
10 said body portion comprises a frame for supporting a  
selected further body member, and said leg structure  
comprises a plurality of leg members extending distally  
from said frame.

12. The device in accordance with claim 1 wherein  
15 said body comprises a shell member and reinforcing  
struts fixed to said shell member and extending  
radially from a center of said shell member, and said  
leg structure comprises a single leg extending distally  
20 from a center of said body.

13. The device in accordance with claim 12  
wherein said leg is cannulated.

14. The device in accordance with claim 1 wherein  
said body comprises a peripheral frame and struts  
extending from the frame inwardly and joined at a  
center of said body, and said leg structure comprises a  
single leg extending distally from a distal surface of  
the center of said body.

15. The device in accordance with claim 14  
wherein said leg is cannulated.

16. The encapsulation device in accordance with  
claim 1 wherein the device is of a selected one of (i)  
bioabsorbable material and (ii) bioremodelable  
material.

17. The encapsulation device in accordance with  
claim 1 wherein the device is impregnated with cell  
growth material.

18. A system for effecting articular cartilage  
defect repair, the system comprising:  
an encapsulation device comprising a body for  
disposition adjacent a bone in an area of the cartilage

defect, and elongated leg structure extending from a distal surface of said body for disposition in the bone in the area of the cartilage defect, each leg of said leg structure being provided with a central opening therein extending from a proximal surface of said body;

5 a pilot hole device comprising a head portion, at least one elongated foot extending distally from said head portion, and a handle portion extending proximally from said head portion, said pilot hole device elongated foot being adapted to form a hole in the bone to receive a leg member of said leg structure; and

10 an insertion tool comprising a head portion, at least one elongated foot extending from a distal end of said head portion, each elongated foot of said insertion tool head portion being adapted to be received by the central opening of one of the encapsulation device legs, and the insertion tool head portion is adapted to engage a proximal surface of said encapsulation device;

15 20 wherein said encapsulation device is adapted to be mounted on said insertion tool, said pilot hole device is adapted to form at least one hole in the bone, and said insertion tool may be manipulated to drive said

encapsulation device leg structure into at least one hole in the bone, to place the encapsulation device distal surface adjacent the bone and in an area of the cartilage defect.

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19. A tool for in-bone placement of an encapsulation device for the repair of an articular cartilage defect, the encapsulation device comprising a body portion and a cannulated leg extending distally from a center of a distal surface of the body portion, the tool comprising:

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a head portion having a distal surface configured generally complementary to a proximal surface of the encapsulation device;

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a handle portion extending proximally from said head portion;

the head portion and handle portion forming a bore extending axially of the head portion and handle portion; and

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an insertion spike extending through the bore and adapted to extend through the encapsulation device leg, with a pointed distal end of the spike extending

distally from a distal end of the encapsulation device leg;

5 wherein the insertion spike is adapted to form a hole in the bone and the tool is adapted to push the encapsulation device leg into the hole and the encapsulation device body into adjacency with the bone.

10 20. A method for effecting a repair to an articular cartilage defect, the method comprising the steps of:

15 providing an encapsulation device comprising a body for disposition adjacent a bone in an area of the cartilage defect, and an elongated leg structure extending from the body for disposition in the bone in the area of the cartilage defect, said elongated leg structure comprising at least one leg;

producing an elongated hole in the bone for each leg of the encapsulation device leg structure; and

20 driving each leg of the leg structure of the encapsulation device into the hole provided therefor in the bone to bring a distal surface of the encapsulation device body into adjacency with the bone.